

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Hanae KAKU *et al.*

Serial No.: 10/591,576

Group No.:

Filed: 08/31/2006

Examiner:

For: **Chitin Oligosaccharide Elicitor-Binding Proteins**

INFORMATION DISCLOSURE STATEMENT

MS PCT

Commissioner for Patents

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Alexandria, VA 22313-1450

CERTIFICATE OF MAILING UNDER 37 CFR § 1.8(a)

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By: _____

Cliff Cannon-Cin

Dear Sir or Madam:

The citations listed below, copies attached, may be material to the examination of the above-identified application, and are therefore submitted in compliance with the duty of disclosure defined in 37 C.F.R. § 1.56 and § 1.97. The Examiner is requested to make these citations of official record in this application:

- Publication No. US 2005/0034189 A1 of Minami *et al.*, "Chitin oligosaccharide elicitor and gibberellin responsive genes in plants and uses thereof (2005) as English translation of related Publication No. WO 2003/054196 A1;
- Publication No. WO 2003/000906 A2 of Glazebrook *et al.*, "Plant disease resistance genes" (2003) provided by WIPO;
- Publication No. WO 2003/054196 A1 of Minami *et al.*, "Chitin oligosaccharide elicitor and gibberellin responsive genes in plant and utilization thereof" (2003) see Publication No. US 2005/0034189 A1 as English translation;
- Baureithel *et al.*, "Specific, high affinity binding of chitin fragments to tomato cells and membranes," *J Biol Chem*, 269:17931-17938 (1994);

- Day *et al.*, "Binding site for chitin oligosaccharides in the soybean plasma membrane," *Plant Physiology*, 126:1162-1173 (2001);
- He *et al.*, "Gene activation by cytoplasmic acidification in suspension-cultured rice cells in response to the potent elicitor, *N*-acetylchitoheptaose," *MPMI*, 11:1167-1174 (1998);
- Ito *et al.*, "Identification of a high-affinity binding protein for *N*-acetylchitoooligosaccharide elicitor in the plasma membrane of suspension cultured rice cells by affinity labeling," *Plant J*, 12:347-356 (1997);
- Kaku *et al.*, "Rice chitin oligosaccharide elicitor," Proceedings of the Annual Meeting and 41st Symposium of the Japanese Society of Plant Physiologists, p. 162 (F306) (2001) provided by WIPO;
- Kikuyama *et al.*, "Membrane depolarization induced by *N*-acetylchitoooligosaccharide elicitor in suspension-cultured rice cells," *Plant Cell Physiol*, 38:902-909 (1997);
- Minami *et al.*, "Two novel genes rapidly and transiently activated in suspension-cultured rice cells by treatment with *N*-acetylchitoheptaose, a biotic elicitor for phytoalexin production," *Plant Cell Physiol*, 37:563-567 (1996);
- Okada *et al.*, "Identification of a high-affinity binding protein for *N*-acetylchitoooligosaccharide elicitor in the plasma membrane from rice leaf and root cells," *J Plant Physiol*, 158:121-124 (2001);
- Okada *et al.*, "High-affinity binding proteins for *N*-acetylchitoooligosaccharide elicitor in the plasma membranes from wheat, barley and carrot cells: conserved presence and correlation with the responsiveness to the elicitor," *J Plant Physiol*, 45:505-512 (2002);
- Shibuya *et al.*, "Identification of a novel high-affinity binding site for *N*-acetylchitoooligosaccharide elicitor in the membrane fraction from suspension-cultured rice cells," *FEBS Letters*, 329:75-78 (1993);
- Shibuya *et al.*, "Localization and binding characteristics of a high-affinity binding site for *N*-acetylchitoooligosaccharide elicitor in the plasma membrane from suspension-cultured rice cells suggest a role as a receptor for the elicitor signal at the cell surface," *J Plant Physiol*, 37:894-898 (1996);
- Takai *et al.*, "Isolation and analysis of expression mechanisms of a rice gene, EL5, which shows structural similarity to ATL family from *Arabidopsis*, in response to *N*-acetylchitoooligosaccharide elicitor," *Plant Science*, 160:577-583 (1993);

- Yamada *et al.*, "Induction of phytoalexin formation in suspension-cultured rice cells by *N*-acetylchitooligosaccharides," *Biosci Biotech Biochem*, 57:405-409 (1993);
- Yamaguchi *et al.*, "Activation of phospholipases by *N*-acetylchitooligosaccharide elicitor in suspension-cultured rice cells mediates reactive oxygen generation," *Physiologia Plantarum*, 118:361-370 (2003);
- GENBANK Accession No. AC099399 (2001) provided by WIPO; and
- GENBANK Accession No. AK073032 (2001) provided by WIPO.

This Information Disclosure Statement under 37 C.F.R. § 1.56 and § 1.97 is not to be construed as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that any one or more of these citations constitutes prior art.

Dated: May 16, 2007



Christine A. Lekutis
Registration No. 51,934

MEDLEN & CARROLL, LLP
101 Howard Street, Suite 350
San Francisco, California 94105
415/904-6500

FORM PTO-1449 (Modified)		U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No.: SHIMIZU-13111	Serial No.: 10/591,576		
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary)				Applicant: Hanae Kaku			
(37 CFR § 1.98(b))				Filing or 371(c) Date: 08/31/2006		Group Art Unit:	
U.S. PATENT DOCUMENTS							
Examiner Initials	Cite No.	Document / Patent Number	Publication / Issue Date	Applicant / Patentee	Class	Subclass	Filing Date
/M.I./	1	2005/0034189	02/10/2005	Minami et al.			06/18/2004
FOREIGN PATENTS OR PUBLISHED FOREIGN PATENT APPLICATIONS							
		Document Number	Publication Date	Country / Patent Office	Class	Subclass	Translation Yes No
/M.I./	2	WO 2003/000906	01/03/2003	PCT			
/M.I./	3	WO 2003/054196	07/03/2003	PCT			x
OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)							
/M.I./	4	Baureithel <i>et al.</i> , "Specific, high affinity binding of chitin fragments to tomato cells and membranes," <i>J Biol Chem</i> , 269:17931-17938 (1994)					
/M.I./	5	Day <i>et al.</i> , "Binding site for chitin oligosaccharides in the soybean plasma membrane," <i>Plant Physiology</i> , 126:1162-1173 (2001)					
/M.I./	6	He <i>et al.</i> , "Gene activation by cytoplasmic acidification in suspension-cultured rice cells in response to the potent elicitor, <i>N</i> -acetylchitoheptaose," <i>MPMI</i> , 11:1167-1174 (1998)					
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/M.I./	10	Minami <i>et al.</i> , "Two novel genes rapidly and transiently activated in suspension-cultured rice cells by treatment with <i>N</i> -acetylchitoheptaose, a biotic elicitor for phytoalexin production," <i>Plant Cell Physiol</i> , 37:563-567 (1996)					
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/M.I./	12	Okada <i>et al.</i> , "High-affinity binding proteins for <i>N</i> -acetylchitoooligosaccharide elicitor in the plasma membranes from wheat, barley and carrot cells: conserved presence and correlation with the responsiveness to the elicitor," <i>J Plant Physiol</i> , 45:505-512 (2002)					
/M.I./	13	Shibuya <i>et al.</i> , "Identification of a novel high-affinity binding site for <i>N</i> -acetylchitoooligosaccharide elicitor in the membrane fraction from suspension-cultured rice cells," <i>FEBS Letters</i> , 329:75-78 (1993)					
/M.I./	14	Shibuya <i>et al.</i> , "Localization and binding characteristics of a high-affinity binding site for <i>N</i> -acetylchitoooligosaccharide elicitor in the plasma membrane from suspension-cultured rice cells suggest a role as a receptor for the elicitor signal at the cell surface," <i>J Plant Physiol</i> , 37:894-898 (1996)					
/M.I./	15	Takai <i>et al.</i> , "Isolation and analysis of expression mechanisms of a rice gene, EL5, which shows structural similarity to ATL family from <i>Arabidopsis</i> , in response to <i>N</i> -acetylchitoooligosaccharide elicitor," <i>Plant Science</i> , 160:577-583 (1993)					
/M.I./	16	Yamada <i>et al.</i> , "Induction of phytoalexin formation in suspension-cultured rice cells by <i>N</i> -acetylchitoooligosaccharides," <i>Biosci Biotech Biochem</i> , 57:405-409 (1993)					
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Examiner: /Medina Ibrahim/				Date Considered: 12/07/2008			
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